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ABSTRACT

Information about the educational progress of 1972 high school seniors from the National Longitudinal Study (NLS) and information from the High School and Beyond (HS&B) Study about 1980 high school seniors were analyzed to compare the patterns of enrollment, program completion, dropout rates, and vocational course-taking patterns of members of the 1972 and 1980 cohorts who entered two-year institutions. Study findings included the following: (1) rates of enrollment in two-year colleges were higher in 1980 than in 1972 regardless of sex, race or ethnicity, or parental education; (2) Hispanic students enrolled in two-year colleges at higher rates than Black students in 1972 and at higher rates than either Black or White students in 1980; (3) the HS&B students had lower rates of degree completion than the NLS students among males, White students, affluent students, and students whose parent(s) had a bachelor's degree or higher; (4) dropout rates were higher among 1980 graduates than 1972 graduates regardless of sex, socioeconomic status, or parental education; (5) approximately equal proportions of students entered vocational programs in 1972 and 1980; (6) vocational students had higher overall dropout rates than the whole student body in both groups; (7) while the average number of vocational credits earned remained steady between the NLS and HS&B studies, the average number of academic credits earned dropped; and (8) computer science, business management, business support, marketing and distribution, and communications programs experienced an overall increase in the proportion of students earning credits from 1972 to 1980. (JMC)

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NATIONAL CENTER FOR EDUCATION STATISTICS

Survey Report **April 1989**

High School and Beyond
National Longitudinal Study of 1972

Enrollment, Completion, Attrition, and Vocational Course-Taking Patterns in Postsecondary Education: A Comparison of 1972 and 1980 High School Graduates Entering Two-Year Institutions

Contractor Report

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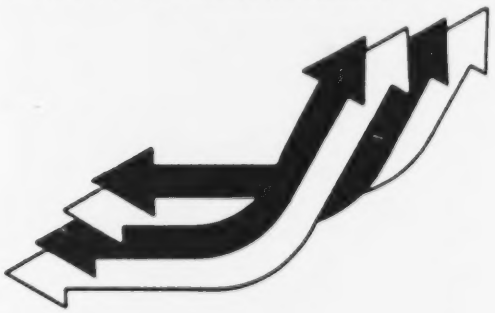

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Summary of Findings

Enrollment in Two-Year Institutions

- Rates of enrollment in 2-year institutions immediately after high school graduation were higher in 1980 than in 1972. This was true regardless of sex, race/ethnicity, or parental education. Enrollment rates were also higher for students of low and middle socioeconomic status, although not for students of high socioeconomic status.

- The increase in 2-year institution enrollment from 1972 to 1980 was higher for females than for males.

- Hispanic students enrolled in 2-year institutions at higher rates than black students in 1972 and at higher rates than either black students or white students in 1980. Black students enrolled at lower rates than white students in 1972 but had approximately the same rates as white students in 1980.

Completion / Degree Attainment

- The 1980 cohort had lower rates of degree completion for those who entered than the 1972 cohort. This was true for males, white students, high SES students, and students whose parent(s) had a bachelor's degree or higher. Conversely, Hispanic students from the 1980 cohort had higher completion rates than those in the 1972 cohort.

- White students had higher completion rates than either black students or Hispanic students in the 1972 cohort. In the 1980 cohort, white and Hispanic students had approximately equal completion rates and both were greater than black student completion rates.

Dropouts

- Dropout rates were higher in the 1980 cohort than in the 1972 cohort. This was true regardless of sex, socioeconomic status, or parental education. Only Hispanic students had no decline in dropout rates between the two cohorts.

- Black students had higher dropout rates than white students in the 1972 cohort, but approximately equal dropout rates to Hispanic students. In the 1980 cohort, no statistically significant differences among racial/ethnic groups were detected.

Vocational Students: Enrollment, Completion, and Dropout Rates

- Approximately equal proportions of students entered vocational programs in 1972 and 1980. This was true regardless of sex, race/ethnicity, parental education, or SES.

- There was no overall decline in degree completion for vocational students between the 1972 and 1980 cohorts, regardless of sex, race/ethnicity, parental education, or SES. Hispanic students had an increase in completion rates between the two cohorts.

- Overall dropout rates were higher for the 1980 cohort than for the 1972 cohort. This persisted regardless of sex or parental education. Black students and white students also had higher dropout rates in the 1980 cohort. In regard to socioeconomic status, only students in the high SES group did not have an increase in dropout rates between the cohorts.

- Vocational students had higher overall dropout rates than the whole student body in both cohorts. However, this was due primarily to an increase in dropout rates for white students. In the 1972 cohort, only white students and high SES students had higher dropout rates for vocational students compared to all students; in the 1980 cohort, only male students and white students had higher dropout rates for vocational students compared to all students.

Vocational and Academic Credits Earned by All Students Entering Two-Year Institutions

- The average number of vocational credits earned by all students did not change between the 1972 and 1980 cohorts, regardless of sex, race/ethnicity, parental education, or SES.

- The average number of academic credits earned by all students decreased overall between the 1972 and 1980 cohorts. This was true regardless of sex or SES. Black students and white students also showed a decline in academic credits earned while Hispanic students showed no change. All parental education groups declined in academic credits earned except those students whose parent(s) had less than a high school education.

- The average number of academic credits earned was higher than the average number of vocational credits earned in both cohorts. This was true regardless of sex, race/ethnicity, parental education, or SES in the 1972 cohort. In the 1980 cohort, only students whose parent(s) had a high school or less than a high school education and students from the low SES group had a similar number of vocational and academic credits earned.

Changes in Vocational Curricula

- Fields that had an overall increase in the proportion of students earning credits between the 1972 and 1980 cohorts were the following: computer science, business management, business support, marketing and distribution, and communications. Fields that had an overall decrease were education and nursing.

- Fields that had different proportions of males and females in the 1972 cohort that changed to equal proportions in 1980 included marketing and distribution, education, and business management. Only communications changed from having equal proportions of males and females in the 1972 cohort to unequal proportions in the 1980 cohort.

Foreword

This report uses information about the educational progress of 1972 seniors from the National Longitudinal Study as well as information from the 1980 senior cohort of the High School and Beyond Study. The information in this report was primarily drawn from the Postsecondary Education Transcript Study (1984). It also draws on information from National Longitudinal Study's base-year (1972), first follow-up (1973), second follow-up (1974), third follow-up (1976), and fourth follow-up (1979) surveys as well as information from High School and Beyond's base-year (1980), first follow-up (1982), second follow-up (1984), third follow-up (1986). This report compares the patterns of enrollment, completion, dropout rates, and vocational course-taking patterns between the 1972 and 1980 cohorts.

The NLS-72 and HS&B data are a rich source of information on the activities of high school graduates, on the consequences of alternative choices during young adulthood, and outcomes from these choices during early middle age. This report demonstrates the breadth of these data in the area of postsecondary education. Due to limitations of space, the analysis is restricted to a few important subgroups—sex, race, parental education, and socioeconomic status. Many other subgroups deserve attention. Variation in outcomes according to high school test scores, high school grade averages, home language, plans for postsecondary education, and family size, among others, can and should be examined in more detail.

We hope that this report will inspire other researchers to use these data to pursue their own interests. The National Center for Education Statistics (NCES) has computer tapes available to those wishing to carry out their own analyses of special questions and issues. NCES also maintains a large set of summary statistics on a microcomputer database. Statistics contained in the database cover the same topics described in this report but in much greater detail.
Information about obtaining NLS-72 or HS&B computer tapes is available from the U.S. Department of Education, Office of Educational Research and Improvement, Information Technology Branch, 555 New Jersey Avenue NW. Room 215, Capitol Place Building, Washington, D.C. 20208-1227.

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ENROLLMENT, COMPLETION, ATTRITION, AND VOCATIONAL COURSE-TAKING PATTERNS IN POSTSECONDARY EDUCATION:

A SUMMARY COMPARISON OF 1972 AND 1980 HIGH SCHOOL GRADUATES ENTERING TWO-YEAR INSTITUTIONS

Introduction

This report compares the postsecondary educational experiences of students who graduated from high school in 1972 and 1980 and entered two-year institutions the summer or fall after high school graduation.[1] The NLS-72 surveys of 1972 high school seniors and the HS&B surveys of 1980 high school seniors provide comparable information for these two cohorts up to four years after high school graduation.[2] With these data, changes in enrollment, completion, dropou. rates, and vocational course-taking patterns were observed between the two cohorts. Some of these changes were reflected differently for men and women, among the different racial/ethnic groups, and for different levels of socioeconomic status. Therefore, this report examines changes between the cohorts as a whole as well as separately for males and females; for black, Hispanic, and white students;[3] for different levels of socioeconomic status; and for different levels of parental education.[4]

The results of this study are presented in three sections. The first section examines overall changes in enrollment, completion, and dropout rates for all high school graduates entering two-year institutions. The second section compares vocational students in the 1972 and 1980 cohorts and also compares vocational students in each cohort to the overall student body entering two-year institutions. These comparisons are made for rates of enrollment, completion, and dropping out of school. The third section examines vocational and academic credits earned and changes in vocational course-taking patterns for all students entering two-year institutions.

Definition of Educational Outcomes

For this analysis, completion and dropping out were defined in relation to degree attainment. Students were classified as completers if they received an A.A. degree, vocational certificate, or a B.A. degree within four years after graduating from high school.[5] Conversely, all students who left school within four years without attaining a degree or certificate were classified as dropouts. It should be noted that the term "dropout" should not necessarily carry

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[1]Throughout this report, references to "all students" should be interpreted as "all immediate entrants." Two-year schools include community colleges, private junior colleges, and all vocational and technical institutes.

[2]With the exception of determining the postsecondary vocational status of the students, all the information reported here came from postsecondary transcripts.

[3]Native American and Asian students are not considered separately because of their small sample size in the NLS-72 cohort.

[4]Parental education is included as a substitute for income since the income levels between the two cohorts were not comparable. This classification refers to the highest level of education attained by either parent. They include the following levels: less than high school, completed high school, had some college, completed a B.A. degree or higher.

[5]The analysis is restricted to only four years out of high school because the HS&B survey collected transcripts only up to 1984. Therefore, NLS-72, which contains transcripts up to 1979, was restricted to those transcripts collected up to 1976 for the sake of comparison.

a negative connotation since there may be some students who have goals other than degree attainment when entering a two-year institution. For example, there are students who enter two-year institutions with the intention of taking specific courses that do not necessarily lead to a certificate or a degree. When these courses are completed, these students have met their prescribed goals and may consider themselves "completed." In addition, some students may enter a two-year institution and transfer to a four-year school without first attaining an A.A. degree. If these students left school without attaining some type of degree, they are also referred to as dropouts in this report. However, they have, in fact, completed their personal goals for education in the two-year school.

Finally, there is a third category of students implicit in the completion / dropout definition and that is students who are "still in school" at the end of the four year period of analysis. These are students who have not yet attained a degree and are still attending school. This definition includes both students who are continually enrolled for four years and students who entered a two-year institution, completed one or more terms, "stopped out," and then returned before the end of four years.

No direct comparison of these "in school" groups was made between the 1972 and 1980 cohorts. However, when the dropout and completion rates do not change proportionally between the groups being compared, it is because the "in school" group has changed. For example, when comparing vocational students to all students, the two groups have similar completion rates but the vocational students have higher dropout rates. Therefore, the vocational students had fewer students still in school after four years than did the student body as a whole.

All Students Entering Two-Year Institutions: Changes in Enrollment, Completion, and Dropout Rates

Enrollment in Two-Year Institutions

As seen in Figure 1, there was an overall increase in two-year institution enrollment between 1972 and 1980, rising from 22 percent of high school graduates immediately entering postsecondary education in 1972 to 28 percent of those entering in 1980.[6] This change persisted regardless of sex or race/ethnicity. Enrollment increased between 1972 and 1980 for all parental education groups with the exception of parent(s) who had less than a high school education. The increase from 25 percent to 31 percent for these students was not statistically significant. The low and middle-level SES students also showed a significant increase in two-year institution enrollment, while enrollment levels for high SES students remained the same.

The increase in two-year institution enrollment was greater for females than for males. In 1972 approximately equal numbers of males and females (22 and 23 percent respectively) entered two-year schools. In 1980, enrollment increased to 30 percent for females compared to only 26 percent for males.

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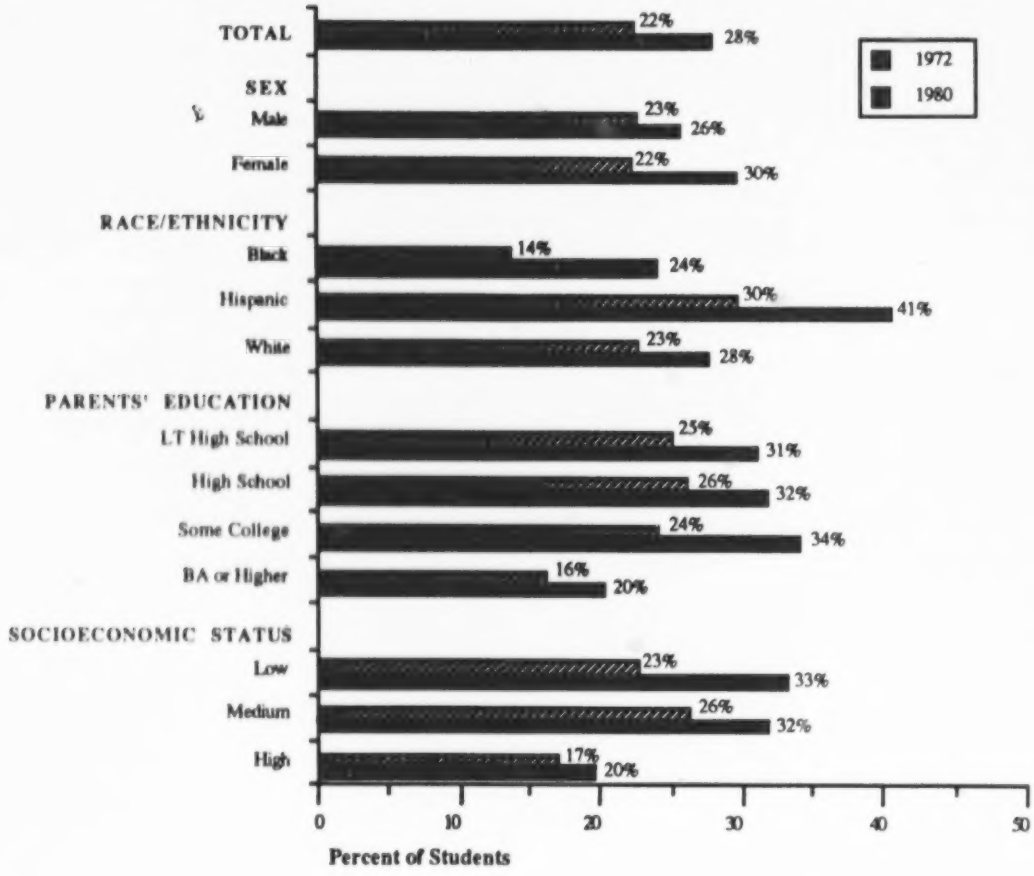
[6]Differences among groups reported throughout the text were evaluated using a two-tailed t-test. When comparisons were made between the two cohorts, differences were deemed significant at $p \leq .05$. When comparisons were made within a "family" (e.g. race) consisting of more than one possible pair-wise comparison, the significance level was made stricter in proportion to the number of categories within a family. An explanation of the procedure used, as well as standard errors for all tables and figures, is given in the technical appendix.

Figure 1

Percentage of High School Graduates Pursuing Postsecondary Education Who Entered Two-Year Institutions Immediately After High School



In 1972, Hispanic students enrolled in two-year institutions at significantly higher rates than black students, but the difference between Hispanic and white student enrollment was not statistically significant. In 1980, Hispanic student enrollment rates were higher than those of either black or white students. In 1972, thirty percent of Hispanic students entering postsecondary education enrolled in two-year institutions, compared to 14 percent of black students and 23 percent of white students. In 1980, enrollments increased for all race / ethnic groups: 41 percent of Hispanic students, 24 percent of black students, and 28 percent of white students entered two-year institutions. Black student enrollment was significantly lower than white student enrollment in 1972 but rose proportionately higher in 1980. Thus, there was no discernible difference between black student and white student enrollment in 1980.

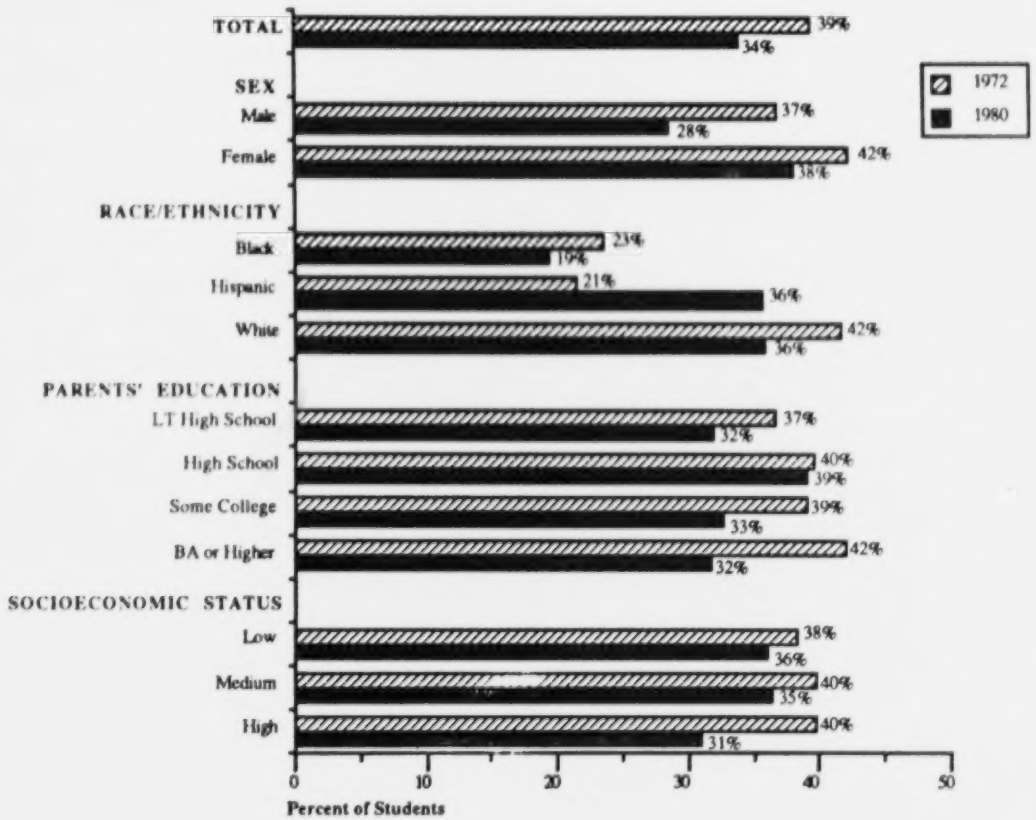
Completion / Degree Attainment

Completion is defined as having received a vocational certificate, an A.A. degree, or a B.A. degree within four years after entering a two-year institution. As illustrated in Figure 2,

there was an overall decline in completion rates between the 1972 and 1980 cohorts, dropping from 39 percent of the students completing in the 1972 cohort to 34 percent in the 1980 cohort. However, the significance of this decline was due primarily to males and to white students.

Figure 2

Percentage of Students Entering Two-Year Institutions Who Completed a Certificate, A.A. or B.A. Degree



There was not a significant change for females or for black students. The completion rate for males dropped from 37 percent in the 1972 cohort to 28 percent in the 1980 cohort. Completion rates for white students also declined, dropping from 42 percent in the 1972 cohort to 36 percent in the 1980 cohort. Conversely, Hispanic students showed an overall increase in completion with 21 percent of the students completing from the 1972 cohort compared to 36 percent from the 1980 cohort.

In the 1972 cohort the completion rate of black students was significantly lower than the completion rate of white students (23 percent compared to 42 percent), but approximately the same as the completion rate for Hispanic students (21 percent). In the 1980 cohort, the black

student completion rate dropped to 19 percent, significantly lower than the rate for either the white or Hispanic students (36 percent for both).

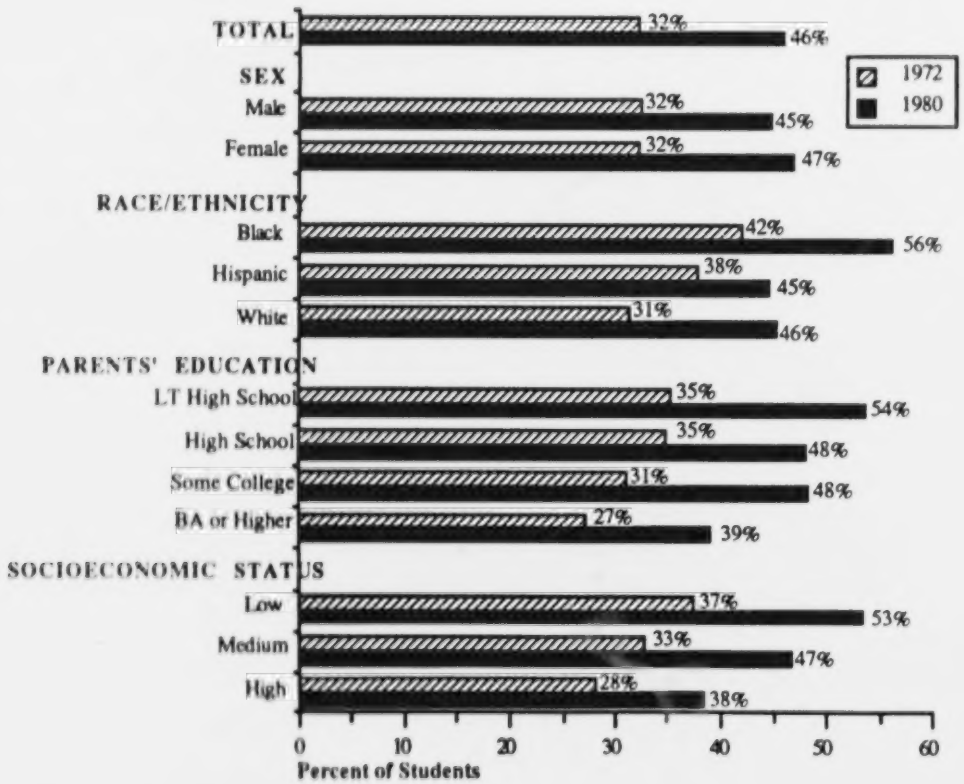
For socioeconomic status and parental education, only those students whose parent(s) had a B.A. or higher degree and those students who were from the high SES group showed a significant decline in completion: completion by students whose parents had a B.A. or higher declined from 42 to 32 percent and those students from the high SES group dropped from 40 to 31 percent.

Dropouts

Dropouts are defined as students who never completed a credential and who stopped attending school before the end of the four-year period of study. The increase in the dropout rate was the largest and most consistent change between the 1972 and 1980 graduates (Figure 3). For all students there was an increase in dropout rates from 32 percent for the 1972 cohort to 46 percent for the 1980 cohort. This trend was true regardless of sex, socioeconomic

Figure 3

Percentage of Students Entering Two-Year Institutions Who Dropped Out



status, or parental education. Black students and white students also showed a significant increase in dropout rates. Only Hispanic students showed no statistically significant change.

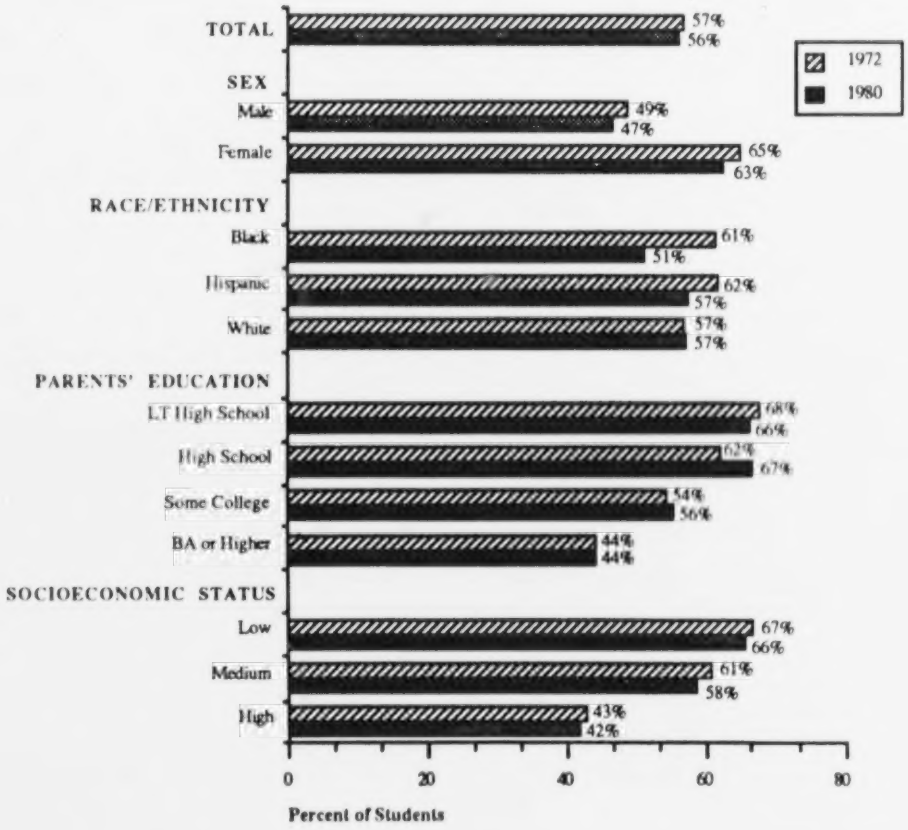
Both male and female dropout rates increased significantly. For males, 32 percent of the students dropped out in 1972 compared to 45 percent in 1980, while dropout rates increased from 32 percent to 47 percent for females.

Black students dropped out at a higher rate than white students in 1972 (42 percent compared to 31 percent), but had a similar dropout rate as Hispanic students (38 percent). In 1980, 56 percent of black students dropped out compared to 46 percent of white students and 45 percent of Hispanic students. However, due to relatively large standard errors, neither of these differences (black vs. white or black vs. Hispanic) found in the 1980 cohort is statistically significant.

In relation to parental education and socioeconomic status, the biggest increases in dropout rates were observed for students whose parent(s) had less than a high school education (35 to 54 percent) and students in the low SES group (37 to 53 percent).

Figure 4

Percentage of Vocational Students Among Those Who Entered Two-Year Institutions



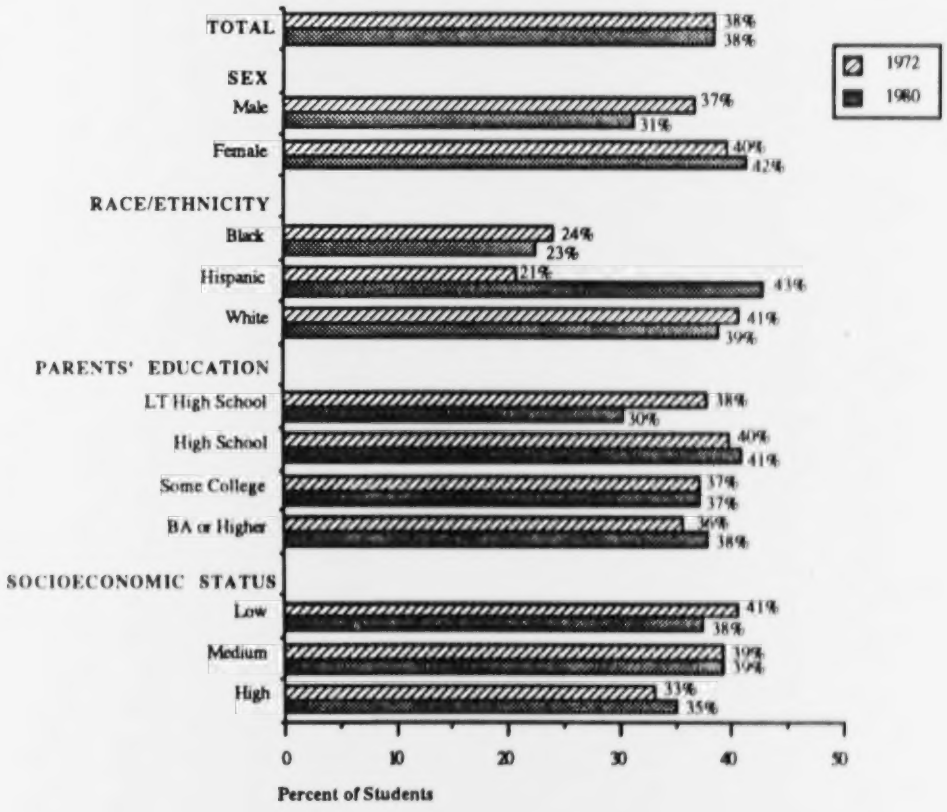
Vocational Students: Changes in Enrollment, Completion, and Dropout Rates

Nearly identical proportions of students entered vocational programs in 1972 and in 1980 (57 and 56 percent, respectively, of all students entering two-year institutions).[7] This was true regardless of sex, race/ethnicity, parental education, or socioeconomic status (Figure 4).

Unlike the whole student body entering two-year institutions, the completion rate for vocational students did not change between the 1972 and 1980 cohorts (both 38 percent). This was true regardless of sex, race/ethnicity, parental education, or socioeconomic status (Figure 5). Hispanic vocational students, as in the case of all Hispanic students, however, showed an increase in completion from 21 percent in the 1972 cohort to 43 percent in the 1980 cohort.

Figure 5

Percentage of Vocational Students Who Completed a Certificate, A.A., or B.A. Degree

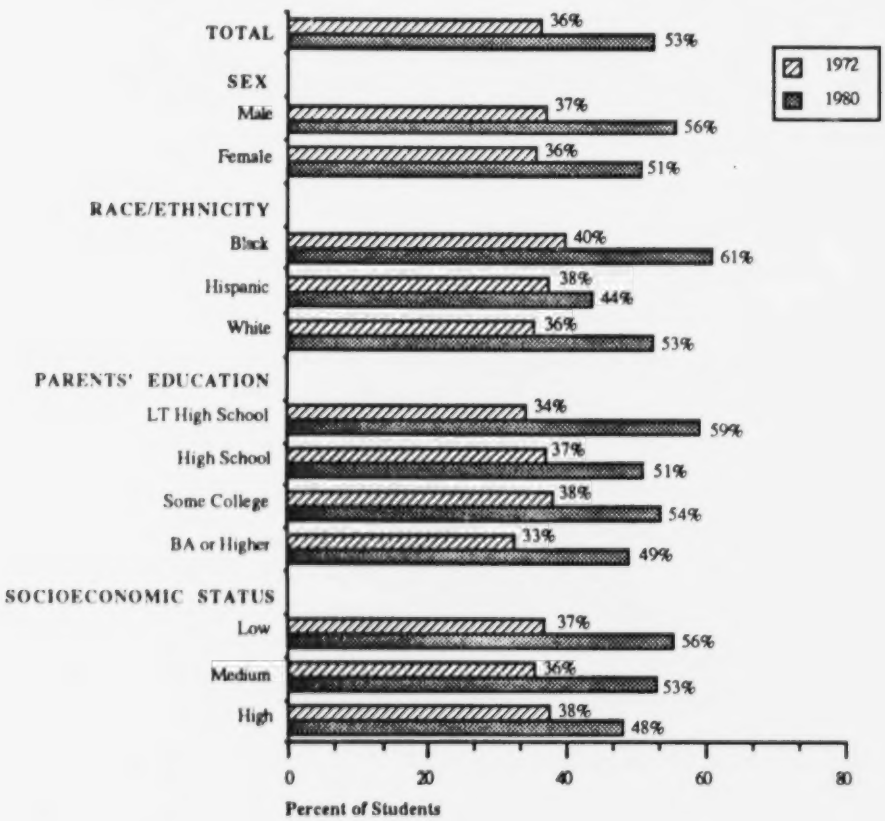


[7]If students entered a public technical institute or a private vocational school they were automatically considered vocational. If they entered a public two-year school or a private junior college, and they indicated that their postsecondary education goal was to attain a vocational degree or certificate, they were also considered vocational.

In keeping with the patterns of the overall student body, the proportion of vocational students dropping out of school was much higher for the 1980 cohort (53 percent) than for the 1972 cohort (36 percent). This difference, as illustrated in Figure 6, persisted regardless of sex or parental education. Black students and white students also had an increase in dropout rates while Hispanic students showed no appreciable difference between the two cohorts. In regard to socioeconomic status, students of the low and middle levels showed an increase in dropout rates while the high-level group had no significant change.

Figure 6

Percentage of Vocational Students Who Dropped Out



When vocational students were compared to the overall student body entering two-year institutions, neither cohort had differences in completion rates. On the other hand, for both cohorts, vocational students had a higher dropout rate than all students. For the 1972 cohort, 32 percent of the entire student body dropped out compared to 36 percent of vocational students. For the 1980 cohort, 46 percent of all students dropped out compared to 53 percent of vocational students. In both cases, however, when specific subgroups were examined separately for dropout rates, there were few that showed statistically significant differences between vocational students and all students. The difference in the dropout rate between all

students and vocational students was due almost entirely to the difference found for white students. In the 1972 cohort, only white students and high SES students showed a significant difference in dropout rates between vocational and all students. There were no differences for sex or parental education. In the 1980 cohort, only white students and male students had significant differences between vocational and all students when examined separately. Again, no differences were found for parental education and socioeconomic status.

Changes in Credits Earned and Vocational Curricula for All Students Entering Two-Year Institutions

Vocational and Academic Credits Earned

The average number of vocational credits earned by all students entering two-year institutions remained essentially the same between the 1972 and 1980 cohorts (23 and 24 credits respectively). This is in direct contrast with an overall decrease in the average number of academic credits earned, which declined from 41 credits for the 1972 cohort to 31 credits for the 1980 cohort (Table 1).[8] The decline in academic credits persisted regardless of sex or

Table 1

Average Number of Vocational and Academic Credits Earned by Students Entering Two-Year Institutions in 1972 and 1980

	Average Vocational Credits		Average Academic Credits	
	1972	1980	1972	1980
TOTAL	23	24	41	31
SEX				
Male	23	25	43	34
Female	24	23	38	29
RACE/ETHNICITY				
Black	19	17	36	21
Hispanic	16	18	28	27
White	24	25	41	32
PARENTS' HIGHEST EDUCATION				
< High School	21	23	31	26
High School Only	24	26	35	26
Some College	24	23	44	30
BA/BS/Adv Degree	24	23	51	38
SOCIOECONOMIC STATUS				
Lower 25%	23	21	31	24
Middle 50%	23	25	39	30
Upper 25%	24	24	51	40

[8]The difference in academic credits earned between the two cohorts may also be a function of the increase in dropout rates in the 1980 cohort. If more students drop out, fewer overall credits are earned.

socioeconomic status. Black students and white students also showed a significant decrease in academic credits, with the average dropping from 36 to 21 credits for black students and from 41 to 32 credits for white students. The number of academic credits taken by Hispanic students remained the same (28 and 27 credits, respectively) for the 1972 and 1980 cohorts. In relation to the highest education of the parent(s), only the group whose parent(s) had less than a high school education showed no significant decline in academic credits earned.

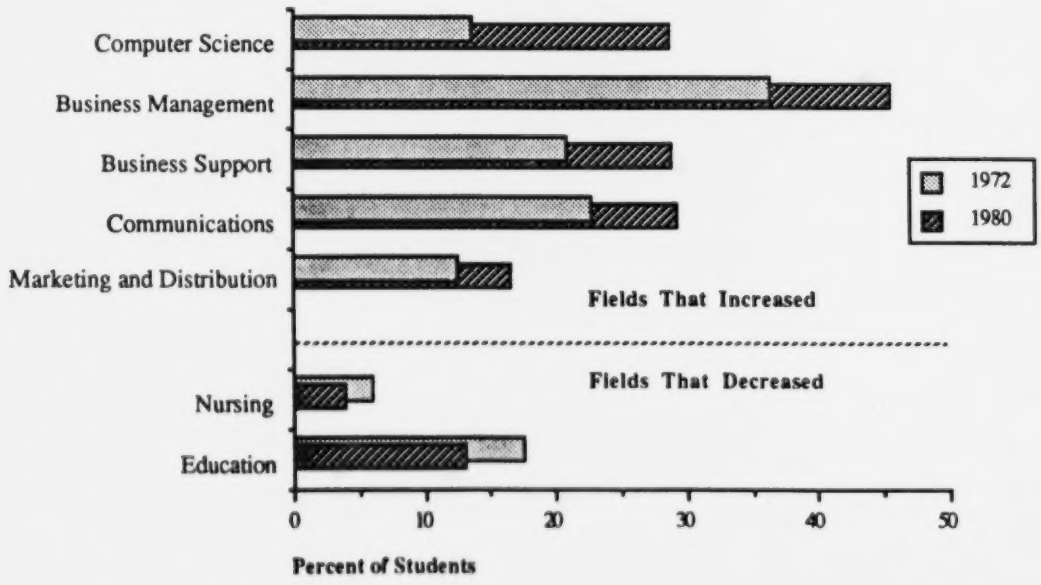
The average number of academic credits earned was significantly higher than the average number of vocational credits earned in the 1972 cohort regardless of sex, race/ethnicity, parental education, or socioeconomic status. This was also true of the 1980 cohort except for those students whose parent(s) had a high school or less than high school education, and those students in the low SES group. These groups showed no statistically significant difference between the number of academic and vocational credits earned.

Changes in Vocational Course-Taking Patterns

Like the overall average number of vocational credits earned, there were few changes in the average number of credits taken within each vocational field. However, as seen in Figure 7

Figure 7

Percentage of Students Earning Credits in Vocational Fields That Increased or Decreased in Proportion Between the 1972 and 1980 Cohorts



and Tables 2 and 3, there were significant changes in the proportion of students who earned some credits within a given field. Vocational fields that showed an overall increase from the 1972 to the 1980 cohort in the proportion of students who earned credits were Computer

Science (14 to 29 percent), Business Management (36 to 45 percent), Business Support (21 to 29 percent), Marketing and Distribution (13 to 17 percent), and Communications (23 to 29 percent). Those fields that showed an overall decrease in the proportion of students with any credits were Education (18 to 13 percent) and Nursing (6 to 4 percent). The proportion of students earning credits in the remaining fields (including Agriculture, Occupational and Home Economics, Public Service, Health (other than nursing), and All Trades) remained unchanged overall between the two cohorts.

Table 2

Percentage of Students Earning Credits in Vocational Fields: Fields That Increased in Proportion Between the 1972 and 1980 Cohorts

	Computer Science		Business Management		Business Support		Marketing and Distribution		Communi-cations	
	1972	1980	1972	1980	1972	1980	1972	1980	1972	1980
TOTAL	14	29	36	45	21	29	13	17	23	29
SEX										
Male	17	35	41	45	10	16	16	18	25	25
Female	10	24	31	46	32	38	9	15	21	33
RACE/ETHNICITY										
Black	13	22	31	38	28	31	7	11	21	21
Hispanic	10	22	29	41	26	34	8	20	14	16
White	14	30	37	46	21	28	13	17	23	32
PARENT'S HIGHEST EDUCATION										
< High School	15	19	34	48	27	40	9	16	20	21
High School Only	15	27	35	47	22	35	12	19	22	31
Some College	13	29	38	42	18	30	13	14	24	24
BA/BS/Adv Degree	11	32	38	49	19	19	15	18	24	37
SOCIOECONOMIC STATUS										
Lower 25%	14	23	35	42	27	34	9	15	19	23
Middle 50%	14	28	36	45	20	30	13	15	22	29
Upper 25%	13	36	37	52	19	21	15	22	27	36

Computer Science

Not surprisingly, given the expansion of computer technology, the most evident change in vocational curricula between the two cohorts was the increase in the proportion of students who earned credits in the field of Computer Science. The proportion of students who earned credits in this field increased from 14 percent in the 1972 cohort to 29 percent in the 1980 cohort. This increase held regardless of sex, race/ethnicity, or socioeconomic status. The only subgroup for which this was not true was for those students whose parent(s) had less than a high school education; the increase for these students was not statistically significant.

Even though there was an increase for all socioeconomic groups earning credits in Computer Science, the distribution changed between the 1972 and 1980 cohorts. In the 1972

cohort, there were no differences among the low, middle, or high SES groups in the proportion of students earning credits in computer science. However, in the 1980 cohort, the high SES group had a higher proportion of students earning credits than the low SES group (36 compared to 23 percent), with the middle SES group falling in between (28 percent)

Business Management

As with Computer Science, there was a notable increase in the proportion of students who earned credits in Business Management between the cohorts. However, the proportion of males earning credits did not increase, while the proportion of females increased from 31 percent in the 1972 cohort compared to 46 percent in the 1980 cohort.

Hispanic and white students showed an increase between the two cohorts in the proportion of students earning credits, while no statistically significant difference was seen for black students.

The proportion of students who earned credits in Business Management increased significantly for the middle and high SES groups. The proportion of middle SES students earning credits rose from 36 to 45 percent and the proportion from the high SES group increased from 37 to 52 percent. The low SES group had no statistically significant change.

A slightly different pattern than that found for socioeconomic status emerged for the parental education groups (when viewed as a surrogate for income levels). The proportion of students who earned Business Management credits increased for all groups except students whose parent(s) had some college education; for these students the difference between the 1972 and 1980 cohorts is not statistically significant. The proportion who earned credits of those students whose parent(s) had less than a high school education increased from 34 to 48 percent; those whose parent(s) had a high school education rose from 35 to 47 percent; and those whose parent(s) had a B.A. degree or more increased from 38 to 49 percent.

Business Support

An increased proportion of both males (10 to 16 percent) and females (32 to 38 percent) earned credits in Business Support. However, among the racial/ethnic groups, only white students showed a significant increase in the proportion of students earning any credits in this field.[9]

Only students in the middle-level SES group showed a statistically significant increase in the proportion of students who earned credits in this field, while among the parental education groups, all groups showed in increase in the proportion of students earning credits except students whose parent(s) had a B.A. degree or higher.

Marketing and Distribution

The increase in the proportion of students earning credits in Marketing and Distribution between the two cohorts was less uniform than in the other vocational fields discussed thus far. The only subgroups to change significantly were the following: women (9 to 15 percent),

[9]Even though the increase in the proportion of Hispanic students earning credits in Business Support appears to be large, the standard errors were too high for the result to be statistically significant.

Hispanic students (8 to 20 percent), students whose parent(s) had a high school education (12 to 19 percent), and students in the low SES group (9 to 15 percent) and high SES group (15 to 22 percent). With the exception of gender (discussed below), these increases had little effect on the distribution within groups.

Communications

Communications also had a less uniform increase in students earning credits across various groups, albeit in a slightly different pattern than Marketing and Distribution. The groups with increases in students earning credits between the 1972 and 1980 cohorts were the following: women (from 21 to 33 percent), white students (23 to 32 percent), students whose parent(s) had a high school education (22 to 31 percent), students whose parent(s) had a B.A. or higher (24 to 37 percent), and students from the middle-level (22 to 29 percent) and high-level (27 to 36) SES groups.

Table 3

Percentage of Students Earning Credits in Vocational Fields: Fields That Decreased in Proportion Between the 1972 and 1980 Cohorts

	Nursing		Education	
	1972	1980	1972	1980
TOTAL	6	4	18	13
SEX				
Male	1	0	14	10
Female	12	7	21	15
RACE/ETHNICITY				
Black	7	2	20	9
Hispanic	5	2	16	11
White	6	4	18	14
PARENT'S HIGHEST EDUCATION				
< High School	8	5	17	13
High School Only	6	4	15	13
Some College	5	4	18	12
BA/BS/Adv Degree	6	3	22	15
SOCIOECONOMIC STATUS				
Lower 25%	8	2	18	13
Middle 50%	6	6	16	14
Upper 25%	6	1	21	13

Nursing and Education

Nursing and Education were the only two vocational fields to have an overall decrease in the proportion of students who earned credits from the 1972 to the 1980 cohort. The decrease in nursing was true regardless of sex or race/ethnicity. The low-level and high-level SES groups also showed a significant decrease, along with students whose parent(s) had a B.A. or higher. The decline in the proportion of women who earned credits in the field (from 12 to 7 percent) played a big role in the overall decrease. Similarly, the proportion of high SES students dropped from 6 to 1 percent, and the proportion of black students who earned credits in the field dropped from 7 to 2 percent.

The proportion of students earning credits in Education decreased in a similar manner as the proportion in Nursing with respect to socioeconomic status and parental education, with the exception that students whose parent(s) had some college education also decreased in the proportion earning credits between the cohorts. Unlike the pattern found in education, however, Hispanic students and male students did not decrease significantly in the proportion of students earning credits in nursing. The biggest change in Education was the decline in the proportion of black students earning credits, from 20 to 9 percent. Additionally, the number of students in the high SES group dropped from 21 to 13 percent.

Enrollment Changes in Fields of Study

There were three vocational fields in which there were significantly different proportions of men and women who earned any credits in the 1972 cohort but converged to approximate parity in the 1980 cohort: Marketing and Distribution, Education, and Business Management.[10]

Conversely, among fields that changed in the proportion of students earning credits overall, Communications was the only field that had similar proportions of men and women earning credits in the 1972 cohort but different proportions in the 1980 cohort (Figure 8).

In all such cases, it was the significant change in the proportion of women earning credits that caused the changes in gender distribution.

In Education, the proportion of men earning any credits dropped from 14 to 10 percent while the decrease for women was greater, dropping from 21 to 15 percent. Again this made the difference between males and females in the 1980 cohort statistically insignificant.

The change was more dramatic in the case of Business Management, where the proportion of women earning any credits in the field rose from 31 to 46 percent between the two cohorts, compared to a statistically insignificant change from 41 to 45 percent for men.

For Marketing and Distribution, the proportion of women earning credits in the field rose from 9 to 15 percent while the proportion of men earning credits remained essentially unchanged (16 and 18 percent).

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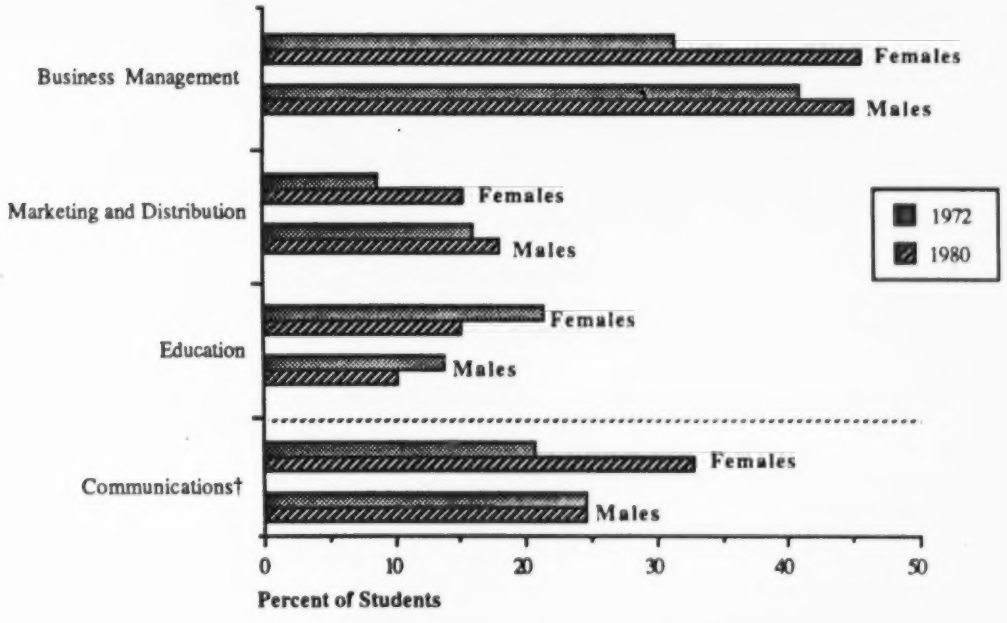
[10]Agriculture, in the 1980 cohort, also had no significant difference between men and women earning credits while in the 1972 cohort the proportions between men and women were different. This, however, was somewhat of a statistical artifact. The proportion of women earning credits remained unchanged between the two cohorts (4 percent), while the proportion of men decreased from 9 to 8 percent, not a statistically significant change. However, this change made the difference in the proportion of students earning credits in the field statistically insignificant between men and women in the 1980 cohort.

Communications was the only vocational field that had similar proportions of men and women in the 1972 cohort who earned any credits, but a greater proportion of women than men in the 1980 cohort earning credits. In this field the proportion of men who earned credits remained unchanged at 25 percent while the proportion of women rose from 21 to 33 percent.

It is worth noting that in the field of Occupational and Home Economics, which had no overall change in the proportion of students earning credits between the two cohorts, there was a significant increase in the proportion of men with any credits in the field. In the 1972 cohort, 14 percent of the males earned credits in the field, compared to 21 percent in the 1980 cohort. In contrast, the proportion of women with credits dropped from 34 percent in the 1972 cohort to 30 percent for 1980, not a statistically significant change. Though this change lessens the gap, there were still many more women than men who earned credits in this field.

Figure 8

Percentage of Males and Females Earning Credits in Vocational Fields that Changed Gender Distribution Between the 1970 and 1982 Cohorts



† The only field that changed from a similar male-female distribution in 1972 to a different distribution in 1980.

Discussion

This analysis of the 1972 and 1980 cohorts of high school graduates has provided an opportunity to observe changes over time in the postsecondary educational experiences of students entering two-year institutions. The comparison of these two groups of high school

graduates shows definite trends in enrollment and dropout rates as well as changes in vocational course taking patterns.

Enrollment, Degree Attainment, and Dropout Rates

Among all students entering postsecondary education, enrollment in two-year institutions increased between 1972 and 1980. This increase persisted regardless of sex or race/ethnicity and was most apparent for those students whose access to postsecondary education may have been limited in the past: females; black and Hispanic students; and students of low socioeconomic status. The only students for whom there was not a significant increase in enrollment were students whose parent(s) had less than a high school education and students of high socioeconomic status.

There was an overall decrease in completion (measured as attainment of a vocational certificate, A.A., or B.A. degree) among all students entering two-year institutions. However, the subgroups of students who had the biggest increase in enrollment showed no significant decline in completion. Moreover, Hispanic students demonstrated a marked increase in attainment of postsecondary degrees. Those students who did show a significant decline in completion were those who, presumably, have the greatest access to postsecondary education: males, white students, students whose parent(s) had a B.A. or higher degree, and students of high socioeconomic status. However, it has previously been determined that these students are more likely to transfer to a four-year college and earn a B.A. degree, while the type of students who showed no decline in completion have been more likely to attain a vocational certificate, which, in some cases, takes less than a year[11]. Thus, the completion rates for students likely to transfer to a four year school and attempt to attain a B.A. do not necessarily indicate less postsecondary education than completion rates for those students more likely to stay in two-year schools and earn a certificate or A.A..

The most significant change observed between the 1972 and 1980 cohorts was the increase in dropout rates. The proportion of students who were no longer in school at the end of the study period and who had not attained a postsecondary degree increased from 32% in the 1972 cohort to 46% in the 1980 cohort. This change persisted regardless of sex, socioeconomic status, and parental education. Only Hispanic students showed no significant increase in dropout rates. Those students who had the highest dropout rates in the 1972 cohort were black students, students whose parent(s) had less than a high school education, and students of low socioeconomic status. These students also had the highest dropout rates in the 1980 cohort by an even greater margin.

More than half of the students entering two-year institutions defined themselves as vocational. Among these students, there was little change in enrollment and degree attainment, but their dropout rates increased between the 1972 and 1980 cohorts. The dropout patterns observed among the various student groups were much the same as those observed for the entire population of students entering two-year institutions.

From these comparisons, it is apparent that while accessibility to two-year institutions has increased between 1972 and 1980, especially for those students less likely to have attended in the past, fewer students from the 1980 cohort remained in school long enough to complete a credential. One might expect that dropout rates would rise in proportion to the increased number of students who, previously, may never have entered postsecondary education. These

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[11]Salgonik, Laura and Joseph Tal, *Patterns of Student and Course Credit Transfer from Two-Year to Four-Year Schools*. A report prepared for the Center of Education Statistics, March 1988.

are students who have difficulty remaining in school either for financial reasons or because of a lack of adequate academic preparation. However, the increase in dropout rates was observed regardless of sex, race (except Hispanic students), parental education, and socioeconomic status. Thus, this change cannot be completely attributed by the entrance of this new class of students into postsecondary education. In addition, because the dropout rates were determined solely from information found in transcripts, they may be underestimated. If a student, for example, did not stay in school long enough to have a transcript (e.g. at least one term), that student would not be represented here.

Vocational Course-Taking Patterns

The examination of vocational course-taking patterns among students entering two-year institutions showed strong trends towards increased enrollment in business and computer-related classes. The proportion of students who earned credits in Computer Science; Business Management and Support; Communications; and Marketing and Distribution increased significantly. Nursing and Education were the only fields that had declining proportions of students earning credits.

The changing distributions of women who earned credits in these fields directly affected the overall changes observed. For example, in the fields of Business Management, Marketing and Distribution, and Communications, there were no significant changes in the proportion of males earning credits but a significant increase for females. Similarly, for Education, females had a significant decline in the proportion earning credits while males remained unchanged. These changes thus served to equalize the gender distributions in fields previously dominated by either males (Business Management and Marketing and Distribution) or females (Education). Communications, on the other hand, changed from having similar proportions of males and females earning credits in the 1972 cohort to having a greater proportion of females earning credits in the 1980 cohort.

The changes observed in the proportion of students earning credits in these same fields of study differed according to race/ethnicity. The only field for which the proportion of black students increased significantly was Computer Science. The proportion of Hispanic students, on the other hand, increased in Computer Science, Business Management, and Marketing and Distribution; while the proportion of white students earning credits increased in Computer Science, Business Management, Business Support, and Communications. The disparity seen for black students when compared to Hispanic and white students may partly be a function of their relatively high dropout rates for the 1980 cohort (56% compared to 44% and 46% for Hispanic and white students).

Conclusions

The overall trends seen in this study indicate that participation in postsecondary education at two-year institutions has increased, especially for students who had more limited access in the past. Hispanic students increased enrollment by a bigger margin between 1972 and 1980 than either black students or white students. Among those students attending, participation in computer and business-related vocational courses increased significantly, while participation in education and nursing courses decreased. There were a number of vocational fields that changed from being specifically gender dominated in the 1972 cohort, to having approximate gender parity in the 1980 cohort. These improvements in participation, however, were offset by dropout rates that increased dramatically. It is clear that students are finding it increasingly difficult to stay in school long enough to complete a degree. The determination of the economic and social factors affecting these trends requires further research and additional longitudinal studies of later cohorts.

Technical Appendix

The High School and Beyond Study has produced a longitudinal data base with a nationally representative sample of over 58,000 1980 high school sophomores and seniors. As part of the long-term National Center for Education Statistics data collection program, the National Education Longitudinal Studies, HS&B provides the most contemporary information available on these students. Both the 1980 senior and sophomore samples were surveyed in 1980, 1982, 1984, and 1986.

The National Longitudinal Study has produced a longitudinal data base with a nationally representative sample of over 22,000 1972 high school seniors. As part of the long-term National Center for Education Statistics data collection program known as the National Education Longitudinal Studies, NLS-72 provides the most contemporary information available on these students. The 1972 senior sample was surveyed in 1972, 1973, 1974, 1976, 1979, and 1986.

The survey samples for both HS&B and NLS-72 were designed to include sufficient students of particular interest in policy questions by over-sampling of schools with high minority populations, alternative public schools, and private schools with high-achieving students. Follow-up surveys retained students in these groups at higher rates than other students.

The base year and follow-up surveys obtained extensive information on each student. Students have reported on such matters as their demographic characteristics, educational experiences, employment experiences, and family formation. In addition, students answered attitudinal questions relating to their self-concept, locus of control, and orientation toward work. Data on high school characteristics and location were also included. These data sets provided all of the information on student characteristics and activities described in this report. For further details concerning the HS&B data, interested readers should consult *High School and Beyond 1980 Senior Cohort Third Follow-Up (1986) Data File User's Manual* (Sebring, P., et al, Chicago: National Opinion Research Center, 1987) and the *High School and Beyond 1980 Sophomore Cohort Third Follow-Up (1986) Data File User's Manual* (Sebring, P., et al, Chicago: National Opinion Research Center, 1987). For further details concerning the NLS-72 data, interested readers should consult *National Longitudinal Study of the High School Senior Class of 1972 Fifth Follow-Up (1986) Data File User's Manual* (Tourangeau, Roger, *et al*, Chicago: National Opinion Research Center, 1987) .

In addition to the survey data, the Postsecondary Education Transcript Study was conducted in 1984 for the 1972 (NLS-72) and 1980 (HS&B) high school seniors. This study collected transcripts from academic and vocational postsecondary institutions that respondents reported attending between 1972 and 1979 for the 1972 seniors and between 1980 and 1984 for the 1980 seniors. All of the results reported in this study were derived from these transcript files. For the 1972 senior cohort, only transcripts for the first four years after high school graduation (up to September 1976) were used, for comparability to the 1980 senior cohort. For further details concerning the transcript data, interested readers should consult *National Longitudinal Study of the High School Senior Class of 1972 Postsecondary Education Transcript Study Data File User's Manual* (Jones, Calvin, *et al*, Chicago: National Opinion Research Center, 1986) and *High School and Beyond Postsecondary Education Transcript Study File User's Manual* .(Jones, Calvin, *et al*, Chicago: National Opinion Research Center, 1986).

The weight used for the HS&B 1980 seniors was WT2, which includes transcripts for those students who responded to the base year questionnaire and both the first and second

follow-ups. This was to insure that all postsecondary institutions attended were known and the collection of the corresponding transcripts attempted. Similarly, for the NLS-72 transcript sample, a weight was created by MPR Associates following NORC procedures to adjust for both transcript and panel participation.

Accuracy of Estimates

The statistics in this report are estimates derived from a sample. Two broad categories of error occur in such estimates: sampling and nonsampling errors. Sampling errors happen because observations are made only on samples of students, not on entire populations. Nonsampling errors happen not only in surveys of sample groups but also in complete censuses of entire populations.

Nonsampling errors can be attributed to a number of sources: inability to obtain complete information about all students in all schools in the sample (some students or schools refused to participate, or students participated but answered only certain items); ambiguous definitions; differences in interpreting questions; inability or unwillingness to give correct information; mistakes in recording or coding data; and other errors of collecting, processing, sampling, and estimating missing data.

The accuracy of a survey result is determined by the effect of sampling and nonsampling errors. In surveys with sample sizes as large as those in the HS&B study, sampling errors generally are not the primary concern, except where separate estimates are made for relatively small subpopulations such as Asian-Americans or American Indians. In this report, small sample sizes were not usually a problem.

The nonsampling errors are difficult to estimate. The major sources of nonsampling error considered were nonresponse bias and the reliability and validity of the data. The HS&B instrument response rates were all above 85 percent and the item response rates within instruments, for the items use to develop the estimates in this report, were above 95 percent. The weights used to calculate the estimates were constructed in a fashion that compensated for instrument nonresponse. Earlier investigations of nonresponse bias found no major problems (see *High School and Beyond First Follow-up (1982) Sample Design Report*, by R. Tourangeau, H. McWilliams, C. Jones, M. Frankel, and F. O'Brien, Chicago: National Opinion Research Center, 1983).

The reliability and validity of the HS&B data have been examined in *Quality of Responses of High School Student to Questionnaire Items* (W. Fetters, P. Stowe, and J. Owings, Washington: National Center for Education Statistics, 1984). This study found that the reliability and validity of responses vary considerably depending on the item and the characteristics of the respondent. Contemporaneous, objective, and factually-oriented items are more reliable and valid than subjective, temporally remote, and ambiguous items. Older, white, or high-achieving students provide more reliable and valid responses than do younger, minority group, or low-achieving students. The estimates in this publication are reasonably reliable and valid.

Statistical Procedures

The descriptive comparisons in this report were based on **Student's t** statistics. Comparisons based on the tables include the estimates of the probability of a Type I error, or significance level. The significance levels were determined by calculating the **Student's t** values for the differences between each pair of means or proportions and comparing these to

published tables of significance levels for two-tailed hypothesis testing. To obtain the confidence level for these comparisons, the significance may be subtracted from 1. For example, a $p<.01$ indicates a confidence of at least 99 percent (1 - 0.01 = 0.99).

Standard errors and unweighted Ns are included in the appendix in each descriptive table for interested readers. **Student's t** values may be computed for comparisons using these tables' estimates with the following formula:

$$t = \frac{P_1 - P_2}{\sqrt{se_1^2 + se_2^2}}$$

where P_1 and P_2 are the estimates to be compared and se_1 and se_2 are their corresponding standard errors.

There are hazards in reporting statistical tests for each comparison. First, the test may make comparisons based on large **t** statistics appear to merit special attention. This can be misleading, since the magnitude of the **t** statistic is related not only to the observed differences in means or percentages but also to the number of students in the specific categories used for comparison. Hence, a small difference compared across a large number of students would produce a large **t** statistic.

A second hazard in reporting statistical tests for each comparison is that, when making multiple comparisons among categories of an independent variable, for example, different levels of income, the probability of a Type I error for these comparisons taken as a group is larger than the probability for a single comparison. When more than one difference between groups of related characteristics or "families" are tested for statistical significance, we must apply a standard that assures a level of significance for all of those comparisons taken together.

In order to reduce the probability of Type I error in a set of multiple comparisons, the author of this report calculated Bonferroni intervals based on families of **Student's t** tests. Families of tests were defined as pairwise tests comparing an outcome for two or more related categories of students. For example, a comparison of enrollment for males and females comprises a family of tests, with only one comparison (males v. females). Comparisons of enrollment rates for black, Hispanic, and white students comprise another family of tests, with three comparisons possible (black v. white, black v. Hispanic, and white v. Hispanic).

The width of a Bonferroni interval depends upon the number of comparisons actually made within a family. When only one pairwise comparison is made, the Bonferroni interval is the same as the confidence interval obtained from a **Student's t** test. The more comparisons that are made, the narrower the Bonferroni interval and thus the greater the **t** statistic needed for each difference to guarantee a significance level $\leq .05$ for all of the comparisons taken together.[12]

Comparisons were made in this report only when $p \leq .05 / k$ for a particular pairwise comparison, where that comparison was one of k tests within a family. This guarantees both that the individual comparison would have $p \leq .05$ and that when k comparisons were made

[12] For a discussion of family-wise error rates, see Alan J. Klockars and Gilbert Sax, *Multiple Comparisons*, Beverly Hills, CA: Sage Publications, 1986, p.17.

within a family of possible tests, the significance level of the comparisons would sum to $p \leq .05$.[13]

For example, in a comparison of enrollment for males and females, only one comparison is possible (males v. females). In this family, $k = 1$, and the comparison can be evaluated with a **Student's t** test. When students are divided into three racial/ethnic groups and all possible comparisons are made, then $k = 3$ and the significance level of each test must be $p \leq .05/3$, or .0167. Comparisons among four categories of income or other independent variable would comprise a third family of tests, where $k = 6$ when all comparisons are made.

Variables Used in This Report

For each cohort, enrollment in two-year institutions was determined based upon high school graduates who entered postsecondary education the summer or fall after graduation. All the rest of the information was based upon students who entered two year schools. This information is as follows: completion, dropout rates, average vocational and academic credits earned, and the proportion of students entering vocational programs. To compare vocational students to all students, completion and dropout rates were also determined for only students who entered vocational programs. All figures and tables present results for both the 1972 and 1980 cohorts for comparison purposes.

Figures 1, 2, and 3 illustrate enrollment, completion, and dropout rates for all students entering two-year institutions; figures 4, 5 and 6 do the same for vocational students only. Table 1 presents the average academic and vocational credits earned.

Changes in vocational curricula were determined by examining the proportion of students who earned credits in a specified field of study. In addition, the average number of credits earned by those students who had credits in the field was determined.

Figure 7 illustrates those fields of study that had overall changes in the proportion of students earning credits; Figure 8 shows the fields that changed in relation to gender distribution.

Finally, Tables 2a and 2b contain all the information regarding the fields of study that had overall changes in the proportions of students earning credits discussed, such as changes in parental education and socioeconomic status.

The following pages provide the percentages, standard errors, and unweighted N's for all data shown in Figures 1 through 8 and Tables 1 through 2b.

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[13] The standard that $p \leq .05/k$ for each comparison is more stringent than the criterion that the significance level of the comparisons should sum to $p \leq .05$. For tables showing the t statistic required to insure that $p \leq .05/k$ for a particular family size and degrees of freedom, see Oliver Jean Dunn, "Multiple Comparisons Among Means," *Journal of the American Statistical Association*, 56: 52-64.

Data for Figures 1, 2 & 3:

The Percentage of Students Entering Two-Year Schools Immediately After High School Graduation in 1972 & 1980 and, Amoung Those Entrants, the Percentage of Students who Completed and Dropped out.

	% Enter Two-year School		Percent Completed Degree		Percent Dropped Out	
	1972	1980	1972	1980	1972	1980
TOTAL	22.43	28	39.44	34	32.28	46.12
s.e.	0.669	0.972	1.249	1.746	1.197	1.853
unwt n	10185	5973	2245	1700	2245	1700
SEX						
Male	22.69	25.85	36.8	28.49	32.37	44.79
s.e.	0.843	1.362	1.661	2.426	1.655	2.778
unwt n	4996	2649	1125	725	1125	725
Female	22.17	29.84	42.18	38.08	32.18	47.11
s.e.	0.786	1.25	1.81	2.269	1.649	2.37
unwt n	5189	3324	1120	975	1120	975
RACE/ETHNICITY						
White	22.84	27.71	41.68	35.86	31.37	45.5
s.e.	0.723	1.129	1.382	2.082	1.251	2.209
unwt n	8350	3125	1878	877	1878	877
Black	13.91	24.29	23.46	19.36	42.18	56.31
s.e.	1.205	1.542	3.757	2.791	4.364	3.561
unwt n	1086	1412	159	321	159	321
Hispanic	29.63	40.58	21.39	35.62	38.15	44.52
s.e.	3.255	2.679	4.567	4.834	6.109	4.395
unwt n	328	1078	97	396	97	396
SOCIOECONOMIC STATUS						
Low	22.89	33.25	38.17	35.93	37.3	53.44
s.e.	1.106	1.802	2.466	3.499	2.539	3.484
unwt n	1998	1738	468	529	468	529
Medium	26.27	31.89	39.68	34.61	32.76	46.65
s.e.	0.927	1.372	1.676	2.397	1.605	2.539
unwt n	4768	2610	1213	817	1213	817
High	17.07	19.66	39.78	31.04	28.01	38.36
s.e.	0.905	1.467	2.47	3.356	2.018	3.554
unwt n	3416	1522	564	327	564	327

Data for Figures 1, 2, & 3: continued

	% Enter Two-year School		Percent Completed Degree		Percent Dropped Out	
	1972	1980	1972	1980	1972	1980
PARENTS' HIGHEST EDUCATION						
< HS	24.94	31.04	36.53	31.89	35.28	53.66
s.e.	1.353	2.855	3.112	5.723	3.032	5.8
unwt n	1405	729	345	217	345	217
Hi Schl	26.01	31.54	39.54	39.01	34.87	48.15
s.e.	1.023	1.791	1.829	3.461	1.82	3.677
unwt n	3256	1457	826	462	826	462
Some College	24.09	34.29	38.9	32.72	31.05	48.28
s.e.	1.048	1.685	2.292	2.706	2.067	2.882
unwt n	2615	1787	623	578	623	578
BA or higher	16.05	20.31	42	31.66	27.22	39.18
s.e.	0.898	1.353	3.144	3.225	2.39	3.341
unwt n	2902	1953	450	427	450	427

Data for Figures 4, 5, & 6:

The Percentage of Students Entering Two-year Schools in 1972 & 1980 who were Vocational and, Amoung the Vocational Students, the Percentage Who Completed and Dropped Out.

	Percent Vocational Student		Percent Completed Degree		Percent Dropped Out	
	1972	1980	1972	1980	1972	1980
TOTAL	56.97	56	38.41	37.88	36.3	52.58
s.e.	1.206	1.845	1.65	2.429	1.549	2.466
unwt n	2245	1700	1286	873	1286	873
SEX						
Male	49.01	46.84	36.73	31.34	36.97	55.7
s.e.	1.699	2.828	2.437	3.701	2.376	4.043
unwt n	1125	725	558	327	558	327
Female	65.22	62.8	39.71	41.5	35.77	50.85
s.e.	1.6	2.227	2.106	3.029	2.005	3.01
unwt n	1120	975	728	546	728	546
RACE						
White	56.89	57.23	40.85	38.98	35.5	52.58
s.e.	1.292	2.151	1.814	2.832	1.657	2.891
unwt n	1878	877	1078	486	1078	486
Black	61.38	51.48	24.04	22.59	40.03	61.05
s.e.	4.194	3.577	4.793	4.463	5.636	4.857
unwt n	159	321	93	153	93	153
Hispanic	61.78	57.47	20.64	43.19	37.69	43.91
s.e.	5.429	4.409	6.276	6.734	7.766	5.969
unwt n	97	396	56	200	56	200
SOCIOECONOMIC STATUS						
Low	66.72	65.75	40.76	37.56	36.69	55.56
s.e.	2.405	3.276	3.053	4.372	3.012	4.4
unwt n	468	529	307	320	307	320
Medium	60.79	58.49	39.39	39.04	35.67	52.9
s.e.	1.586	2.417	2.195	3.275	1.99	3.307
unwt n	1213	817	740	423	740	423
High	42.7	41.9	33.12	35.06	37.74	48.01
s.e.	2.204	3.748	3.445	5.552	3.349	5.846
unwt n	564	327	239	120	239	120

Data for Figures 4, 5, and 6 (Continued)

	Percent Vocational Student 1972	1980	Percent Complted Degree 1972	1980	Percent Dropped Out 1972	1980
PARENTS' HIGHEST EDUCATION						
< HS	67.85	66.33	38.05	30.32	34.32	59.17
s.e.	2.801	5.383	3.875	6.886	3.756	7.049
unwt n	345	217	229	137	229	137
Hi Schl	62.25	66.87	40.3	41.4	37.43	51.36
s.e.	1.853	3.095	2.379	4.274	2.242	4.416
unwt n	826	462	517	271	517	271
Some College	54.4	55.52	37.34	36.54	38.1	53.83
s.e.	2.239	2.884	2.929	3.833	3.008	3.99
unwt n	623	578	341	285	341	285
BA or higher	44.29	43.62	35.85	37.95	32.55	49.3
s.e.	2.538	3.486	4.071	5.304	3.723	5.382
unwt n	450	427	199	170	199	170

Data for Table 1

Average Number of Vocational and Academic Credits Earned by Students Entering Two-Year Schools in 1972 and 1980

	Average Vocational Credits 1972	1980	Average Academic Credits 1972	1980
TOTAL				
	23.78	23.46	31.17	40.51
s.e.	0.895	0.626	1.045	0.977
unwt n	1656	2175	1656	2175
SEX				
Male	25.49	22.79	33.73	43.31
s.e.	1.428	0.872	1.572	1.463
unwt n	700	1090	700	1090
Female	22.52	24.14	29.29	37.63
s.e.	1.025	0.909	1.384	1.159
unwt n	956	1085	956	1085
RACE/ETHNICITY				
Hispanic	18.16	15.78	27.17	27.97
s.e.	1.329	2.174	2.88	3.041
unwt n	387	93	387	93
Black	16.84	19.29	20.76	35.98
s.e.	1.317	2.217	1.428	3.155
unwt n	311	153	311	153
White	25.15	24.3	32.49	41.13
s.e.	1.082	0.698	1.244	1.026
unwt n	853	1821	853	1821
SOCIOECONOMIC STATUS				
Lower 25%	20.65	22.92	24.29	30.5
s.e.	1.451	1.302	1.862	1.583
unwt n	511	452	511	452
Middle 50%	25.04	23.32	30.23	38.67
s.e.	1.3	0.792	1.492	1.232
unwt n	798	1175	798	1175
Upper 25%	24.1	24.09	40.31	50.91
s.e.	1.78	1.288	2.202	2.085
unwt n	320	548	320	548

Data for Table 1 (continued)

	Average Vocational Credits 1972	1980	Average Academic Credits 1972	1980
PARENTS' HIGHEST EDUCATION				
LessTh Hi Schl	22.51	21.48	26.42	30.95
s.e.	2.281	1.498	3.466	1.948
unwt n	210	332	210	332
Hi Schl Only	26.2	23.52	25.94	35.02
s.e.	1.885	1.019	1.883	1.262
unwt n	447	798	447	798
Some College	23.1	23.76	30.29	44.15
s.e.	1.383	1.11	1.66	1.838
unwt n	561	602	561	602
BA/BS/Adv Degree	23.03	24.24	38.29	51.4
s.e.	1.418	1.367	2.013	2.436
unwt n	422	442	422	442

Data for Figures 7, 8, & Tables 2 and 3:

The Percentage of Students with Credits in Vocational Fields Who Entered Two-Year Schools in 1972 & 1980 (Computer Science, Business Management, Business Support and, Marketing & Distribution.)

	Computer Science % with Credit		Business Mngt % with Credit		Business Supp % with Credit		Market Dist % with Credit	
	1972	1980	1972	1980	1972	1980	1972	1980
TOTAL	13.69	28.79	36.33	45.46	20.95	28.76	12.5	16.53
s.e.	0.716	1.596	1.143	1.785	0.877	1.669	0.786	1.355
unwt n	2175	1656	2175	1656	2175	1656	2175	1656
SEX								
Male	17.28	34.97	41.04	45.19	9.9	15.54	16.11	18.15
s.e.	1.046	2.524	1.556	2.611	0.926	2.039	1.267	2.092
unwt n	1090	700	1090	700	1090	700	1090	700
Female	9.98	24.26	31.46	45.67	32.37	38.47	8.76	15.34
s.e.	0.922	1.986	1.431	2.376	1.494	2.39	0.85	1.797
unwt n	1085	956	1085	956	1085	956	1085	956
RACE/ETHNICITY								
White	14.08	29.63	37.32	46.45	20.76	28.09	13.2	17.01
s.e.	0.799	1.914	1.273	2.139	0.972	1.947	0.892	1.615
unwt n	1821	853	1821	853	1821	853	1821	853
Black	13.4	21.98	30.85	37.68	28.44	30.81	7.32	11.07
s.e.	2.316	2.867	3.283	3.062	3.417	3.095	1.381	1.906
unwt n	153	311	153	311	153	311	153	311
Hispanic	9.72	22.04	28.55	41.29	25.87	34.1	7.83	20.04
s.e.	1.865	3.29	4.197	4.566	4.129	4.704	2.282	4.627
unwt n	93	387	93	387	93	387	93	387
SOCIOECONOMIC STATUS								
Low	13.57	23.4	35.44	42.37	26.53	33.93	8.59	15.45
s.e.	1.695	2.952	2.384	3.381	2.217	3.365	1.249	2.779
unwt n	452	511	452	511	452	511	452	511
Medium	14.21	27.61	36.15	44.69	20.14	30.22	12.67	15.18
s.e.	0.999	2.113	1.392	2.536	1.187	2.349	1.035	1.724
unwt n	1175	798	1175	798	1175	798	1175	798
High	12.68	35.53	37.27	51.89	18.98	21.37	14.71	21.71
s.e.	1.299	3.654	2.072	4.072	1.728	3.306	1.532	2.965
unwt n	548	320	548	320	548	320	548	320

Data for Figures 7, 8, & Tables 2 and 3: continued

	Computer Science % with Credit 1972	1980	Business Mngt % with Credit 1972	1980	Business Supp % with Credit 1972	1980	Market Dist % with Credit 1972	1980
PARENTS' HIGHEST EDUCATION								
LessTh HS	14.9	18.92	33.67	47.91	26.76	39.58	9.23	16.08
s.e.	2.172	3.968	2.664	5.614	2.375	5.766	1.594	5.233
unwt n	332	210	332	210	332	210	332	210
Hi Schl	15.03	26.51	35.17	47.04	21.7	35.26	12.21	18.7
s.e.	1.175	3.076	1.684	3.5	1.47	3.21	1.267	2.72
unwt n	798	447	798	447	798	447	798	447
Some College	13.38	29.4	37.6	41.68	18.41	29.96	12.64	13.62
s.e.	1.525	2.591	2.163	2.875	1.703	2.893	1.506	2.083
unwt n	602	561	602	561	602	561	602	561
BA or higher	11.05	32.11	38.46	48.62	19.32	19.41	14.94	18.33
s.e.	1.366	3.181	2.452	3.3	1.885	2.723	1.753	2.576
unwt n	442	422	442	422	442	422	442	132

Data for Figures 7, 8, & Tables 2 and 3 (Part 2):

The Percentage Students with Credits in Vocational Fields Who Entered Two-Year Schools in 1972 & 1980 (Communications, Education, Nursing)

	Communications % with Credit		Education % with Credit		Nursing % with Credit	
	1972	1980	1972	1980	1972	1980
TOTAL	22.68	29.33	17.54	13.1	6.18	3.94
s.e.	1.083	1.66	0.899	1.239	0.512	0.711
unwt n	2175	1656	2175	1656	2175	1656
SEX						
Male	24.66	24.57	13.75	10.33	0.64	0.16
s.e.	1.43	2.348	1.08	1.681	0.133	0.103
unwt n	1090	700	1090	700	1090	700
Female	20.63	32.83	21.46	15.13	11.9	6.72
s.e.	1.338	2.271	1.307	1.808	0.997	1.182
unwt n	1085	956	1085	956	1085	956
RACE/ETHNICITY						
White	23.47	31.57	17.64	13.82	6.43	4.34
s.e.	1.209	2.022	0.98	1.492	0.572	0.854
unwt n	1821	853	1821	853	1821	853
Black	20.99	21.41	20.18	8.92	6.58	1.86
s.e.	3.03	2.409	3.319	1.667	2.151	0.825
unwt n	153	311	153	311	153	311
Hispanic	13.87	15.96	15.86	11.49	5.24	1.91
s.e.	2.94	2.375	3.963	1.87	1.933	0.76
unwt n	93	387	93	387	93	387
SOCIOECONOMIC STATUS						
Low	18.94	23.03	18.38	12.89	7.84	2.4
s.e.	1.886	3.019	1.626	2.284	1.339	0.97
unwt n	452	511	452	511	452	511
Medium	21.86	29.34	15.54	13.55	5.92	5.87
s.e.	1.451	2.274	1.073	1.684	0.684	1.188
unwt n	1175	798	1175	798	1175	798
High	26.83	35.55	21.14	12.93	5.61	0.91
s.e.	2.058	3.8	1.914	2.419	0.893	0.685
unwt n	548	320	548	320	548	320

Data for Figures 7, 8, & tables 2 and 3 (Part 2): continued

	Communications % with Credit		Education % with Credit		Nursing % with Credit	
	1972	1980	1972	1980	1972	1980
HIGH SCHOOL PARENTS' EDUCATION						
LessTh HS	19.87	20.75	16.54	12.95	7.86	4.97
s.e.	2.389	4.485	1.836	3.624	1.459	2.721
unwt n	332	210	332	210	332	210
Hi Schl	21.52	31.3	14.73	13.2	6.45	4.21
s.e.	1.748	3.249	1.167	2.304	0.919	1.448
unwt n	798	447	798	447	798	447
Some College	24.45	24.15	18.22	11.67	5.21	4.47
s.e.	1.863	2.545	1.578	1.835	0.857	1.233
unwt n	602	561	602	561	602	561
BA or higher	24.23	36.73	21.88	15.15	5.89	2.89
s.e.	2.149	3.488	2.12	2.325	1.004	1.15
unwt n	442	422	442	422	442	422

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